

WHAT IS CLAIMED IS:

1. An image processing method of converting image data composed of an R, G, and B colors into one or
5 more pixel data corresponding to color materials for a plurality of ejection units which eject the respective color materials and two of which eject color materials of the same color or similar shades, the method comprising:

10 a mode selecting step of selecting either a first mode using only an ejection unit that ejects large amounts of a color material for color materials of the same color or similar shades and a second mode using all ejection units or not using said ejection unit
15 that ejects large amounts of a color material;

a first converting step of operating if said first mode is selected, to convert said image data in which two of the colors R, G, and B have their maximum values and which represents a primary color into said
20 one pixel data corresponding to the primary color; and

a second converting step of operating if said second mode is selected, to convert said image data which represents said primary color into said plurality of pixel data constituting hues equal to the
25 primary color.

2. An image processing method according to claim

1, wherein said plurality of pixel data in said second converting step includes a first color pixel data and a second color pixel data.

5 3. An image processing apparatus that converts image data composed of an R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the respective color materials and two of which eject
10 color materials of the same color or similar shades, the apparatus comprising:

 a mode selecting unit for selecting either a first mode using only an ejection unit that ejects large amounts of a color material for color materials
15 of the same color or similar shades and a second mode using all ejection units or not using said ejection unit that ejects large amounts of a color material;

 a first converting unit for operating if said first mode is selected, to convert said image data in
20 which two of the colors R, G, and B have their maximum values and which represents a primary color into said one pixel data corresponding to the primary color; and

 a second converting unit for operating if said second mode is selected, to convert said image data
25 which represents said primary color into said plurality of pixel data constituting hues equal to the primary colors.

4. An image processing apparatus according to claim 3, wherein said plurality of pixel data in said second converting unit includes a first color pixel data and a second color pixel data.

5. An image processing method for an image output system including an image output apparatus having a plurality of ejection units which eject respective color materials and two of which eject color materials of the same color or similar shades and an image processing apparatus which converts image data composed of an R, G, and B colors into one or more pixel data corresponding to the color materials for said plurality of ejection units, the method comprising:

a mode selecting step of causing said image processing apparatus to select either a first mode using only an ejection unit that ejects large amounts of a color material for color materials of the same color or similar shades and a second mode using all ejection units or not using said ejection unit that ejects large amounts of a color material;

a first converting step of causing said image processing apparatus to operate if said first mode is selected, to convert said image data in which two of the colors R, G, and B have their maximum values and

which represents a primary color into said one pixel data corresponding to the primary color;

a second converting step of causing said image processing apparatus to operate if said second mode is
5 selected, to convert said image data which represents said primary color into said plurality of pixel data constituting hues equal to the primary color; and

a data generating step of causing said image processing apparatus to generate output data from a
10 plurality of pixel data obtained in said first converting step or the second converting step, the output data being outputted by said image output apparatus.

15 6. An image processing method for an image output system according to claim 5, wherein said plurality of pixel data in said second converting step includes a first color pixel data and a second color pixel data.

20 7. An image output system including an image output apparatus having a plurality of ejection units which eject respective color materials and two of which eject color materials of the same color or similar shades and an image processing apparatus which
25 converts image data composed of an R, G, and B colors into one or more pixel data corresponding to the color materials for said plurality of ejection units, said

image processing apparatus comprising:

a mode selecting unit for selecting either a first mode using only an ejection unit that ejects large amounts of a color material for color materials
5 of the same color or similar shades and a second mode using all ejection units or not using said ejection unit that ejects large amounts of a color material;

a first converting unit for operating if said first mode is selected, to convert said image data in
10 which two of the R, G, and B colors have their maximum values and which represents a primary colors into said one pixel data corresponding to the primary colors;

a second converting unit for operating if said second mode is selected, to convert said image data
15 which represents said primary color into said plurality of pixel data constituting hues equal to the primary colors; and

a data generating unit for generating output data from a plurality of pixel data obtained by said first
20 converting unit or said second converting unit, the output data being outputted by said image output apparatus.

8. An image output system according to claim 7,
25 wherein said plurality of pixel data in said second converting unit includes a first color pixel data and a second color pixel data.

9. A computer program product for causing a computer to execute an image processing method of converting image data composed of the R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the respective color materials and two of which eject color materials of the same color or similar shades, the computer program product comprising:

a first program code means for selecting either a first mode using only an ejection unit that ejects large amounts of a color material for color materials of the same color or similar shades and a second mode using all ejection units or not using said ejection unit that ejects large amounts of a color material;

a second program code means for operating if said first mode is selected, to convert said image data in which two of the R, G, and B colors have their maximum values and which represents a primary color into said one pixel data corresponding to the primary color; and

a third program code means for operating if said second mode is selected, to convert said image data which represents said primary color into said plurality of pixel data constituting hues equal to the primary color.

10. A computer program product according to claim 9, wherein said plurality of pixel data in said third program code means includes a first color pixel data and a second color pixel data.

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11. A computer-readable recording medium having a program recorded on it for causing a computer to execute an image processing method of converting image data composed of an R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the respective color materials and two of which eject color materials of the same color or similar shades, the program comprising:

15 a first program code means for selecting either a first mode using only an ejection unit that ejects large amounts of a color material for color materials of the same color or similar shades and a second mode using all ejection units or not using said ejection
20 unit that ejects large amounts of a color material;

 a second program code means for operating if said first mode is selected, to convert said image data in which two of the R, G, and B colors have their maximum values and which represents a primary color into said
25 one pixel data corresponding to the primary color; and

 a third program code means for operating if said second mode is selected, to convert said image data

which represents said primary color into said plurality of pixel data constituting hues equal to the primary color.

5 12. A computer-readable recording medium according to claim 11, wherein said plurality of pixel data in said third program code means includes a first color pixel data and a second color pixel data.

10 13. An image processing method of converting image data composed of an R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the respective color materials and two of which eject
15 color materials of the same color or similar shades, the method comprising:

 a mode selecting step of selecting either a first mode using only an ejection unit that has high-density of a color material for color materials of the same
20 color or similar shades and a second mode using all ejection units;

 a first converting step of operating if said first mode is selected, to convert said image data in which two of the colors R, G, and B have their maximum
25 values and which represents a primary color into said one pixel data corresponding to the primary color; and
 a second converting step of operating if said

second mode is selected, to convert said image data which represents said primary color into said plurality of pixel data constituting hues equal to the primary color.

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14. An image processing method according to claim 13, wherein said plurality of pixel data in said second converting step includes a first color pixel data and a second color pixel data.

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15. An image processing apparatus that converts image data composed of an R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the
15 respective color materials and two of which eject color materials of the same color or similar shades, the apparatus comprising:

a mode selecting unit for selecting either a first mode using only an ejection unit that has high-
20 density of a color material for color materials of the same color or similar shades and a second mode using all ejection units;

a first converting unit for operating if said first mode is selected, to convert said image data in
25 which two of the colors R, G, and B have their maximum values and which represents a primary color into said one pixel data corresponding to the primary color; and

a second converting unit for operating if said second mode is selected, to convert said image data which represents said primary color into said plurality of pixel data constituting hues equal to the
5 primary colors.

16. An image processing apparatus according to claim 15, wherein said plurality of pixel data in said second converting unit includes a first color pixel
10 data and a second color pixel data.

17. An image processing method for an image output system including an image output apparatus having a plurality of ejection units which eject
15 respective color materials and two of which eject color materials of the same color or similar shades and an image processing apparatus which converts image data composed of an R, G, and B colors into one or more pixel data corresponding to the color materials
20 for said plurality of ejection units, the method comprising:

a mode selecting step of causing said image processing apparatus to select either a first mode using only an ejection unit that has high-density of a
25 color material for color materials of the same color or similar shades and a second mode using all ejection units;

a first converting step of causing said image processing apparatus to operate if said first mode is selected, to convert said image data in which two of the colors R, G, and B have their maximum values and
5 which represents a primary color into said one pixel data corresponding to the primary color;

a second converting step of causing said image processing apparatus to operate if said second mode is selected, to convert said image data which represents
10 said primary color into said plurality of pixel data constituting hues equal to the primary color; and

a data generating step of causing said image processing apparatus to generate output data from a plurality of pixel data obtained in said first
15 converting step or the second converting step, the output data being outputted by said image output apparatus.

18. An image processing method for an image
20 output system according to claim 17, wherein said plurality of pixel data in said second converting step includes a first color pixel data and a second color pixel data.

25 19. An image output system including an image output apparatus having a plurality of ejection units which eject respective color materials and two of

which eject color materials of the same color or similar shades and an image processing apparatus which converts image data composed of an R, G, and B colors into one or more pixel data corresponding to the color materials for said plurality of ejection units, said
5 image processing apparatus comprising:

a mode selecting unit for selecting either a first mode using only an ejection unit that has high-density of a color material for color materials of the
10 same color or similar shades and a second mode using all ejection units;

a first converting unit for operating if said first mode is selected, to convert said image data in which two of the R, G, and B colors have their maximum
15 values and which represents a primary colors into said one pixel data corresponding to the primary colors;

a second converting unit for operating if said second mode is selected, to convert said image data which represents said primary color into said
20 plurality of pixel data constituting hues equal to the primary colors; and

a data generating unit for generating output data from a plurality of pixel data obtained by said first converting unit or said second converting unit, the
25 output data being outputted by said image output apparatus.

20. An image output system according to claim 19, wherein said plurality of pixel data in said second converting unit includes a first color pixel data and a second color pixel data.

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21. A computer program product for causing a computer to execute an image processing method of converting image data composed of the R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the respective color materials and two of which eject color materials of the same color or similar shades, the computer program product comprising:

15 a first program code means for selecting either a first mode using only an ejection unit that has high-density of a color material for color materials of the same color or similar shades and a second mode using all ejection units;

20 a second program code means for operating if said first mode is selected, to convert said image data in which two of the R, G, and B colors have their maximum values and which represents a primary color into said one pixel data corresponding to the primary color; and

25 a third program code means for operating if said second mode is selected, to convert said image data which represents said primary color into said

plurality of pixel data constituting hues equal to the primary color.

22. A computer program product according to
5 claim 21, wherein said plurality of pixel data in said third program code means includes a first color pixel data and a second color pixel data.

23. A computer-readable recording medium having
10 a program recorded on it for causing a computer to execute an image processing method of converting image data composed of an R, G, and B colors into one or more pixel data corresponding to color materials for a plurality of ejection units which eject the respective
15 color materials and two of which eject color materials of the same color or similar shades, the program comprising:

a first program code means for selecting either
a first mode using only an ejection unit that has
20 high-density of a color material for color materials of the same color or similar shades and a second mode using all ejection units;

a second program code means for operating if said
first mode is selected, to convert said image data in
25 which two of the R, G, and B colors have their maximum values and which represents a primary color into said one pixel data corresponding to the primary color; and

a third program code means for operating if said second mode is selected, to convert said image data which represents said primary color into said plurality of pixel data constituting hues equal to the
5 primary color.

24. A computer-readable recording medium according to claim 23, wherein said plurality of pixel data in said third program code means includes a first
10 color pixel data and a second color pixel data.